MISSOURI DEPARTMENT OF TRANSPORTATION
MATERIALS ENGINEERING
Jefferson City, Missouri

Test Method
MoDOT T62
PREQUALIFICATION OF DUST SUPPRESSANTS

1.0 SCOPE.

1.1 This test procedure is to determine the effects on compressive strength and air content of air-entrained portland cement concrete and compressive strength of non-entrained portland cement concrete when using a chemical dust suppressant on coarse aggregates.

2. 0 REQUIRED MATERIALS.

2.1 Dust suppressant.

2.2 Coarse aggregate, representative of material for which the dust suppressant is proposed to be used on.

2.3 Fine aggregate, Class A.

2.4 Type I portland cement.

2.5 MoDOT approved air-entraining agent.

2.6 Water.

3.0 SAMPLE PREPARATION.

3.1 Coarse Aggregate.

3.1.1 Treated coarse aggregate shall be treated with the dust suppressant at the manufacturer's recommended maximum rate.

3.2 Concrete mix design.

3.2.1 Two concrete mixtures shall be prepared for each of the following designs. One mixture shall be prepared using treated coarse aggregate, and one mixture shall be prepared using the same coarse aggregate which has not been treated.

3.2.2 Air-Entrained Concrete.

Cement Factor: ..... 340 kg/m^3
Water/Cement Ratio, max: 0.49
Slump, mm, max 65
Air Content ..... 4.0 - 7.0
Percent Fine Aggr. 38

3.2.3 Non-Air-Entrained Concrete.

Cement Factor: ..... 340 kg/m^3
Water/Cement Ratio, max: 0.53
Slump, mm, max 65
Percent Fine Aggr. 38

3.3 Mixing.

3.3.1 Mixing of the concrete using the design factors listed herein shall be performed in accordance with the applicable requirements of AASHTO T 126. During mixing the slump shall be at least 25 mm, and the water-cement ratio shall be maintained as constant as possible.

3.4 Specimens.

3.4.1 Three 152.4 x 304.8 mm cylinders shall be prepared from each of the mixtures in accordance with the applicable requirements of AASHTO T 126.

3.4.1.1 The cylinders shall be cured for 7 days in accordance with the applicable requirements of AASHTO T 126.

4.0 TESTING.

4.1 Slump. The slump of the freshly mixed concrete shall be determined in accordance with AASHTO T 119.

4.2 Air Content. The air content of the freshly mixed concrete shall be determined in accordance with AASHTO T 152.

4.3 Compressive Strength. Two cylinders from each concrete mixture shall be tested for 7 day compressive strength in accordance with AASHTO T 22.

4.4 Linear Traverse. Test specimens shall be taken from one cylinder of each concrete mixture at 7 days cure by sawing and polishing and shall be tested for the characteristics of the air-void system in accordance with ASTM C457.

5.0 REPORT.

5.1 The report shall list the following for each concrete mixture and each design:

(a) Slump of freshly mixed concrete.
(b) Air content of freshly mixed concrete.
(c) Individual Compressive strengths at 7 day cure.
(d) Spacing factor of the hardened concrete.